

the influence of daylight these gases combine ; but hydrogenium combines with chlorine in the dark. Hydrogenium reduces persalts to the state of the protosalts of iron. It converts red prussiate into yellow prussiate of potassium, and it has generally considerable deoxidizing power.

The results of Dr. Graham's precise experiments allow of a computation of the specific gravity of hydrogenium as it exists in the alloy. According to his latest figures, its gravity may be taken at $\cdot 7$; it is therefore of greater specific gravity than lithium (taken at $\cdot 59$) ; indeed the collective evidence is so much in favour of regarding the combination as an alloy, that the case may be regarded as parallel to that of the fluorides. We know fluorine very well in its combinations ; but we cannot yet properly succeed in isolating fluorine from fluor spar or any other of its compounds, so as to obtain a private interview with it, and in the same way we now know hydrogenium as a metal alloyed with palladium, although we cannot yet isolate little silvery globules of the hydrogenium itself.

ART. XIV.—*On the Melbourne Great Telescope.* By
A. LE SUEUR, ESQ.

[Read 11th July, 1870.]

In this paper Mr. Le Sueur showed that the disparagement of the Melbourne Great Telescope by Mr. Severn in his late paper was unfounded, and arose from ignorance of the subject.

ART. XV.—*On Railway Working Expenses in Victoria.*
By F. C. CHRISTY, ESQ., C.E.

[Read 15th August, 1870.]

In this paper Mr. Christy adduced evidence to show that the Victorian Government Railways were worked at half the cost of working American lines, and from 13 to 30 per cent. lower than English lines. This he attributed to the superiority of the road bed, of the rolling stock, of the climate, and to the excellent system of repairing promptly and economically.